

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended): A hot-gas blowing fan, comprising:

a heat resisting impeller cantilevered by a rotating shaft;

a bearing attached to the rotating shaft;

a heat insulating layer disposed between the impeller and the bearing, the heat insulating layer including a first radial face that faces the impeller and an inner circumferential face that faces the rotating shaft;

a cooling portion disposed between the heat insulating layer and the bearing, and the cooling portion includes a cooling fluid to remove heat from the bearing and the rotating shaft without contacting the bearing or the rotating shaft;

a first magnetic coupling disposed on a shaft end of the rotating shaft at a side opposite to the impeller;

a second magnetic coupling configured to be mated with the first magnetic coupling and disposed on a shaft end of a driving shaft of a motor;

a non-magnetic partition wall disposed between the first magnetic coupling and the second magnetic coupling; and

a collar positioned between the first radial face of the heat insulating layer and the impeller and positioned between the inner circumferential face of the heat insulating layer and the rotating shaft, wherein the collar comprises a different material than the heat insulating layer such that the collar prevents the heat insulating layer from contaminating a process gas flowing inside the hot-gas blowing fan.

wherein a space surrounding the rotating shaft is hermetically sealed from an exterior of the hot-gas blowing fan by the non-magnetic partition wall and a casing.

2. (Previously Presented): The hot-gas blowing fan according to Claim 1, wherein the hermetically sealed space is filled with an inert gas.

3. (Currently Amended): A hot-gas blowing fan, comprising:

- a heat resisting impeller cantilevered by a rotating shaft;
- a bearing attached to the rotating shaft;
- a heat insulating layer disposed between the impeller and the bearing, the heat insulating layer including a first radial face that faces the impeller and an inner circumferential face that faces the rotating shaft;
- a heat receiving portion disposed between the heat insulating layer and the bearing, and the heat receiving portion includes a cooling fluid to remove heat from the bearing and the rotating shaft without contacting the bearing or the rotating shaft;
- an air cooling/radiating portion provided at an outer side of a casing;
- a heat transporting portion connecting the heat receiving portion to the air cooling/radiating portion, wherein the heat transporting portion is a heat pipe; and
- a collar positioned between the first radial face of the heat insulating layer and the impeller and positioned between the inner circumferential face of the heat insulating layer and the rotating shaft, wherein the collar comprises a different material than the heat insulating layer such that the collar prevents the heat insulating layer from contaminating a process gas flowing inside the hot-gas blowing fan.

4. (Original): The hot-gas blowing fan according to Claim 3, wherein the heat receiving portion and the heat transporting portion are unified to form a thermo-siphon heat pipe.

5. (Previously Presented): The hot-gas blowing fan according to Claim 1, wherein the cooling portion includes a heat receiving portion disposed between the heat insulating layer and the bearing, and

the heat receiving portion is connected to an air cooling/radiating portion provided at an outer side of the casing via a heat transporting portion.

6. (Previously Presented): The hot-gas blowing fan according to any one of Claims 1 to 5, further comprising:

an inertia dust collector provided at an inlet port of a scroll.

7. (Previously Presented): The hot-gas blowing fan according to Claim 1, wherein the hot-gas blowing fan is configured to be attached to a solid oxide fuel cell.

8. (Previously Presented): The hot-gas blowing fan according to Claim 3, wherein the hot-gas blowing fan is configured to be attached to a solid oxide fuel cell.

9. (Previously Presented): The hot-gas blowing fan according to Claim 1, further comprising:

a heat insulating spacer disposed between the collar and the cooling portion to block heat transfer between the collar and the cooling portion.

10. (Previously Presented): The hot-gas blowing fan according to Claim 3, further comprising:

a heat insulating spacer disposed between the collar and the heat receiving portion to block heat transfer between the collar and the heat receiving portion.

11. (Currently Amended): The hot-gas blowing fan according to Claim 1, wherein a temperature of the cooling fluid is higher than a temperature of a dew-point of ~~[[a]]~~ the process gas blown by the hot-gas blowing fan.

12. (Currently Amended): The hot-gas blowing fan according to Claim 3, wherein a pressure in the heat receiving portion is adjusted so that a boiling point of the cooling fluid is higher than a dew-point of ~~[[a]]~~ the process gas blown by the hot-gas blowing fan.

13-16. (Canceled).

17. (New): The hot-gas blowing fan according to Claim 1, wherein the heat insulating layer is comprised of a ceramic fiber and the collar is comprised of stainless steel, heat-resistant cast steel, or ceramic.

18. (New): The hot-gas blowing fan according to Claim 3, wherein the heat insulating layer is comprised of a ceramic fiber and the collar is comprised of stainless steel, heat-resistant cast steel, or ceramic.